SANTA CRUZ BIOTECHNOLOGY, INC.

# UNC-13 (cN-14): sc-12235

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Cell proliferation and development are carefully controlled in *C. elegans*, with each cell following a nearly invariant pattern of differentiation. Vulval development in particular provides a useful model for studying how cell fate is determined. In addition to cell signaling pathways such as Notch and Ras pathways, the establishment of cell polarity and the asymmetric distribution of certain receptors are also critical for proper cell fate determination. Vesicles dock at a specialized presynaptic plasma membrane region, the active zone, where they are primed to a fusion competent state and neurotransmitters are then released. Priming is an essential and rate-limiting step in secretion from neurons and neuroendocrine cells. Unc-13, which is highly conserved among species, acts as a novel target of the diacylglycerol second-messenger pathway, and is involved in neurotransmitter release following vesicle docking and before fusion. Unc-13 is a member of the phorbol ester receptor family and shows high homology to protein kinase C isozymes and the chimaerins.

## REFERENCES


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2. Sundaram, M. and Han, M. 1996. Control and integration of cell signaling pathways during *C. elegans* vulval development. Bioessays 18: 473-480.
3. Kornfeld, K. 1997. Vulval development in *Caenorhabditis elegans*. Trends Genet. 13: 55-61.
4. Sommer, R.J. and Sternberg, P.W. 1997. Evolution of nematode vulval fate patterning. Dev. Biol. 173: 396-407.
5. Tokumaru, H. and Augustine, G.J. 1999. UNC-13 and neurotransmitter release. Nat. Neurosci. 2: 929-930.
6. Aravamudan, B., Fergestad, T., Davis, W.S., Rodesch, C.K. and Broadie, K. 1999. *Drosophila* UNC-13 is essential for synaptic transmission. Nat. Neurosci. 2: 965-971.
7. Brose, N., Rosenmund, C. and Rettig, J. 2000. Regulation of transmitter release by UNC-13 and its homologues. Curr. Opin. Neurobiol. 10: 303-311.


## SOURCE

UNC-13 (cN-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of UNC-13 of *C. elegans* origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12235 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

UNC-13 (cN-14) is recommended for detection of UNC-13 of *Caenorhabditis elegans* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.